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Remarks

This Amendment is in response to the Final Office Action dated May 22, 2002 and in view of the one-month extension of time is now due on or before September 23, 2002 (as September 22nd fell on a Sunday).

In the Final Office Action claims 1-15 were rejected as obvious over Maul et al. (Maul), U.S. patent 6,327,838 in view of Shirk (Shirk), U.S. patent 6,056,314, as discussed in paragraph 2 of the last office action. At the top of page 3 of the Office Action it was noted Maul shows a single piston mechanism as shown in Figure "a!" with piston 10. Thereafter the Office Action relates the applicant's characterization of elements 30,40 as pistons is erroneous, perhaps attempting to show Maul only utilizes one piston. The Office Action goes on to say "element 30 is characterized as a folding ram" while element 40 is characterized as a "positioning device." Following this line of reasoning, since Maul refers to his element 10 as a "straightening ram" and not a "piston", Maul should be considered irrelevant to the present invention. As noted above, the applicant was directed to Figure "a!" and applicant has taken this to be Figure 1a, however, applicant reviewed the figures of Maul and has not found an embodiment that utilizes a single piston, which is taught by the present invention.

An analysis of Maul will show he utilizes a plurality of elements that move reciprocatively within a housing, tube or cylinder; some might consider these to be pistons while others may not. In figures 1A-1C, Maul utilizes a first reciprocatively movable element 10 to straighten his air bag. Subsequently he uses another reciprocatively movable element 18, which is moved about the air bag. Thereafter, an additional reciprocating element 20 is moved to compact or

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fold his air bag. In the embodiment of Figures 2A-2C, Maul utilizes two reciprocatively movable elements 10 and 30, which reciprocate within a sleeve to fold an air bag into a cover. In his embodiments shown in Figures 3A - 3G, he again utilizes his elements 10 and 30, which reciprocate within the sleeve 18. Further his element 40, which is his positioning device, also reciprocates. Again, he does not show the use of a single mechanism that reciprocates within a housing or sleeve or tube, but a plurality of such mechanisms.

In the embodiment of Figures 4A - 4H, Maul utilizes the reciprocating elements 10, 20 and at least 42, while in the embodiment of Figures 5A - 5G he shows reciprocating elements 10, 20, 42, etc.

In the present embodiment, the air bag is attached to a single movable piston, piston element or piston means, which reciprocates within the housing or tube or sleeve. The piston is moved to enable attachment of the air bag and its housing. Then the piston, the air bag and the housing, which attaches the air bag to the piston, are moved down the tube and into an adjacent air bag (deployment) cover, which is part of an air bag module (which includes the housing moved by the piston).

The present invention is considerably simpler than Maul's as it eliminates all but one reciprocating element. This concept is not taught by Maul, nor by Maul in combination with Shirk. Further, applicant does appreciate Shirk has been used to teach the concept of using a retaining means to provide stability, however, such retaining means is not found in independent claims 1, 6, 11 or 15 and consequently, it is respectfully urged that Shirk is again not relevant to the present invention. It would also be appreciated if the finality of the Office Action is withdrawn so that the

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applicant and the Examiner can explore the patentable features of the present invention.

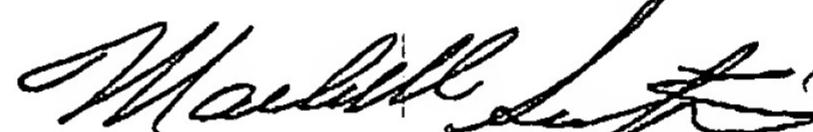
Applicant has amended claims 1-5 and 7-9 as they were not clear and contained many syntax errors. The thrust of the claims remains the same and it is hoped that no additional search is needed. With regard to Claim 6, Maul does not show "piston means for moving the air bag in an up stroke and a down stroke within the cavity in the single cycle."

In Claim 11 the references do not teach the reciprocating movement of the cushion achieved by movement of the piston.

In Claim 15 the references do not teach the withdrawal and urging of the piston.

In view of the aforementioned, it is respectfully urged that the present application be reconsidered, the claims allowed, and the case passed to issue.

Respectfully submitted,



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Version with Markings to Show Changes Made:

1 1. (Twice Amended) A method for installing a cushion and an
2 inflator/horn assembly into a cover having a cover cavity
3 therein for the cushion using only a single reciprocatively
4 movable piston, said method comprising the steps of:

5 attaching the cushion to a spacing element [mock
6 inflator] which is [fixedly] receivable within the cover
7 cavity and which is positioned relative to an end of the
8 piston;

9 securing the cover in a preferred orientation at one
10 end of a tubular housing;

11 [thereafter] compacting the cushion into the cover
12 cavity and around the spacing element to define a sleeve
13 cavity for the inflator/horn assembly [said mock inflator] by
14 cycling [a single] the piston through one reciprocating
15 movement cycle within the tubular housing[, such that the
16 cushion is received into a cover cavity defined by the cover];
17 and

18 removing the spacing element [mock inflator] from
19 said cushion, thereby [forming a] exposing the sleeve cavity
20 within the compacted cushion for [an] the inflator/horn
21 assembly.

1 2. (Amended) The method of claim 1, wherein said step of
2 compacting [is] further includes forming [defined by] the
3 sleeve cavity [being between the inflator/horn assembly and
4 the cover] such that a predetermined thickness of cushion is
5 disposed between the sleeve cavity [in the cushion] and the
6 cover such that a predetermined amount of force applied to the
7 cover will activate the horn.

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1 3. (Amended) The method of claim 1, further including the
2 step of inserting a retaining ring into a cushion such that
3 said step of attaching [securing] the cushion to the spacing
4 element [cover] is further defined by attaching said retaining
5 ring to the spacing element [mock inflator].

1 4. (Amended) The method of claim 1, further including a base
2 to which the cover is secured, [a] and wherein the tubular
3 housing [having] includes an upper and lower platform [that
4 defines a housing cavity, and a piston disposed within the
5 housing cavity and slidable between the upper and lower
6 platform], and wherein said compacting step is further defined
7 by using the interior of the tubular housing as a guide for
8 guiding the cushion into the cover cavity as the piston moves
9 through the tubular housing [of the cover through the tube
10 cavity defined by the tube].

1 5. (Amended) The method of claim 4, wherein the tubular
2 housing [tube] is movable between an open position and a
3 closed position relative to the base[and the piston is
4 movable relative to the tube], wherein said step of securing
5 the cushion to the spacing element [mock inflator] is further
6 defined by securing the spacing element [mock inflator] to the
7 piston and further including the steps of raising the piston
8 within the tubular housing [tube] toward the upper platform,
9 lowering the lower platform of the housing [tube] onto the
10 base to secure [securing] the cover, and driving the piston
11 within the housing [cavity] to compact the cushion into the
12 cover cavity of the cover.

1 6. (Twice Amended) An assembly for assembling a cushion to a
2 cover, said assembly comprising;

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3 a base for supporting the cover;
4 a housing defining a generally hollow housing
5 cavity;

6 an air bag housing slidably disposed within said
7 housing cavity; and

8 piston means comprising a single reciprocatively
9 movable element, for moving the air bag in an up stroke and
10 down stroke within the cavity in a single cycle and for
11 folding the air bag into the cover at the end of the down
12 stroke.

1 7. (Amended) An assembly as in claim 5, wherein the tubular
2 housing [said tube cavity] is shaped to form the outer
3 periphery of said compacted cushion.

1 8. (Amended) An assembly as in claim 5, wherein the spacing
2 element [said mock inflator] includes an outer periphery
3 shaped to form the [an inner] sleeve cavity within the
4 cushion.

1 9. (Amended) An assembly as in claim 5, wherein said cushion
2 further includes a retaining ring to attach said cushion to
3 said spacing element [mock inflator].

1 11. (Twice Amended) A method for installing a cushion into an
2 interior cavity of a cover using one reciprocatively movable
3 , said method comprising the steps of;

4 forming a cushion subassembly and attaching same to
5 [a movable] the piston, the subassembly including a cushion
6 housing and the cushion;

7 positioning the cover apart from the piston;

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8 moving the piston and the attached cushion assembly
9 along a fixed tube in a first direction away from the cover to
10 cause the cushion to expand as it rubs against the inner sides
11 of the tube;

12 moving the piston toward the cover to press the
13 cushion into the cover, thereby folding same and positioning
14 the housing atop the now folded cushion within the interior of
15 the cover.

1 14. (Amended) The assembly as defined in Claim [13] 6 wherein
2 the piston means includes a mock inflator movable with the
3 piston and locatable within a determinable volume within the
4 cover cavity to prevent the air bag from being folded within
5 this volume.

1 15. (Amended) A method for installing a cushion into a cavity
2 of a cover using one reciprocatively movable piston, said
3 method comprising the steps of:

- 4 a) providing a hollow folding tube;
- 5 b) placing [a] the piston near a determinable location
6 in the folding tube;
- 7 c) attaching an air bag to an air bag housing sized to
8 fit into the cover cavity;
- 9 d) securing the air bag housing to the piston;
- 10 e) withdrawing the piston up the folding tube to at
11 least partially elongate the air bag;
- 12 f) positioning the cover proximate an open end of the
13 folding tube with the cover cavity facing the open end; and
- 14 g) urging the piston, housing and air bag toward and
15 into the cover cavity until the air bag fills the cover cavity
16 and the housing is placed on the cover